UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
DOAN, NGHIA M

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/735,549	KOLK ET AL.
	Examiner	Art Unit	
	Nghia M. Doan	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 October 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) *21-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 26-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *12/12/03*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I.   Claims 1-20; and 26-28 (Group I), drawn to a system extracting data from

   bump mapping I/O of a circuit, classified in class 716, subclass 11.

   II.   Claims 21-25' (Group II), drawn to a computer readable medium with

   instructions for user interface to change a metal layer, classified in class

   716, subclass 11.

2.   Inventions Groups I and II are related as subcombinations disclosed as usable

together in a single combination. The subcombinations are distinct from each other if

they are shown to be separately usable. In the instant case, invention Group I has

separate utility as it is desired to a system and method for extracting data from a bump

map application. Invention Group II has separate utility such as a programming method

that enables changes to metal layer pattern configurations of an integrated circuit. See

MPEP § 806.05(d).

3.   Because these inventions are distinct for the reasons given above and the

search required for Group I is not required for Group II, restriction for examination

purposes as indicated is proper.

4.   During a telephone conversation with the Applicant's attorney Mr. Phillips Lyren

(Reg. No. 40729) on October 4th, 2005 a provisional election was made without

traverse to prosecute the invention of Group I, claims 1-20 and 26-28. Affirmation of

this election must be made by applicant in replying to this Office action. Group II, claims

21-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as

being drawn to a non-elected invention.

5.   Applicant is reminded that upon the cancellation of claims to a non-elected

invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by

a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6.   In this Office Action, Group I, claims 1-20 and 26-28 are pending.

Oath/Declaration

7.   The Oath/Declaration is objected to because the name of inventor is misspelled.

Appropriate correction is required.

Specification

8.   Applicant is reminded of the proper language and format for an abstract of the
disclosure.

The abstract should be in narrative form and generally limited to a single
paragraph on a separate sheet within the range of 50 to 150 words. It is important that
the abstract not exceed 150 words in length since the space provided for the abstract
on the computer tape used by the printer is limited. The form and legal phraseology
often used in patent claims, such as "means" and "said," should be avoided. The
abstract should describe the disclosure sufficiently to assist readers in deciding whether
there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information
given in the title. It should avoid using phrases which can be implied, such as, "The
disclosure concerns," "The disclosure defined by this invention," "The disclosure
describes," etc.

9.   The abstract of the disclosure is objected to because state that abstract lacks

narrative format and merely paraphrases claim 1. Correction is required. See MPEP

§ 608.01(b).

Claim Objections

10.   Claims 1, 14, and 26 are objected to because of the following informalities: the

claims preamble must state the intended use or purpose of the invention.

11.   As per claim 9, line 3, before router application; change – a -- to – the--

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12.   **Claims 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Lie**

(US 6,671,868).

13.   **With respective to claim 14**, Lie discloses a method creating a data structure

(col. 1, ll. 26-28 and ll. 35-42 -- pinout map table --)

Extracting (filling) bump locations into the data structure (Lie, col. 3, ll. 57-67)

from relative physical positions (-- coordinate--) of bump labels (-- pad/pin name --) in a

table, wherein each bump label is associated with a bump (Lie, col. 3, ll. 28-42 and ll. 57-67); and

displaying bumps on a graphical user interface using the data structure (Lie, figures 3-4 and col. 47-65).

14.   **With respective to claim 15**, Lie discloses the method of claim 14 further comprising extracting at least one type of data contained in the table group consisting of bump labels (Lie, col. 4, ll. 47-65, -- ball name --)

15.   **With respective to claim 16**, Lie discloses the method of claim 14 further comprising extracting coordinate positions of input/output circuitry of an integrating circuit into the data structure (Lie, col. 3, ll. 58-67 and col. 4, ll. 12-36).

16.   **With respective to claim 17**, Lie discloses the method of claim 16 further comprising:

writing out the bump data and the coordinate positions of the input/output circuitry to a router application (Lie, col.10, ll. 21-50); and

displaying straight-line connections between locations of bumps and locations of input/output circuit associated with each bump (Lie, col. 10, ll. 51-67).

17.   **With respective to claim 18**, Lie discloses the method of claim 16 further comprising extracting track parameters (-- annotated --) into the data structure (col. 9, ll. 35-49).

18.   **With respective to claim 19**, Lie discloses the method of claim 18 further comprising:

writing out the bump data, the coordinate positions of the input/output circuitry, and the track parameters to a router application (Lie, col.10, ll. 21-50); and

displaying bumps, input/output circuitry locations, and tracks to a user according

to the bump data, the coordinate positions of the input/output circuitry, and the track

parameters (Lie, col. 4, ll. 12-45; col. 9, ll. 35-49; and col. 10, ll. 51-67).

19.   **With respective to claim 20**, Lie discloses the method of claim 19 further

comprising editing at least one type of data selected from the group consisting of the

bump data and the track parameters in response to said displaying by accessing a

single source file (Lie, col. 1, ll. 45-53).

Claim Rejections - 35 USC § 103

20.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

21.   **Claims 1-13 and 26-28 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Lie (US 6,671,868) in view of Dahl (US 6,734,046).

22.   **With respective to claims 1 and 26**, Lie discloses a system (Lie, col. 11, ll. 10-

18 and also see first 3 lines in claim 18) comprising a CPU, a graphical user interface

couple to CPU and a memory, which may be a storage medium which can be used to

program computer to perform a process (col. 11, ll. 25-33) comprising:

the memory stores a bump map application (a pinout table or spreadsheet) (col.

1, ll. 22-31; col. 3, ll. 58-64; col. 11, ll. 25-33 and figures 3-4, 9, 20-21 and 23) and a

data extraction application executed by the CPU (col. 1, ll. 35-42 and col. 3, ll. 58-64),

wherein the bump map application displays a plurality of editable textual character

groups representative of a plurality of bumps that are arranged on the graphical user

interface according to a relative coordinate position of the bumps with respect to an origin (figures 3-4, 9, 20-21 and 23; col. 4, ll. 32-36, and ll. 47-60); and

wherein the data extraction application automatically extracts data from the bump map application for use by a router application(col. 3, ll. 12-20 and ll. 43-51).

Lie discloses a system (see col. 11, ll. 10-32), which can be to perform the process of creating the pinout table readable file (col. 3, ll. 58-64). Official notice is taken that a computer system includes a central processing unit (CPU), a graphical user interface and a memory coupled the CPU.

Lie does not specifically disclose that the system comprises a CPU, GUI coupled to the CPU and a memory coupled to CPU.

Dahl does disclose a computer system (fig. 2, 100; col. 5, ll. 12-20) for generating padring layout (--bump layout--, col. 7, ll. 31-41) design for conjunction package routing (col. 2, ll. 40-52), which is including a central processing unit (CPU) (fig. 2, processor 101); a graphical user interface coupled to the CPU (fig. 2, element 106 and 105 – alpha-numeric and display device); and a memory coupled to the CPU (fig. 2, elements103-104).

It would have been obvious to one of ordinary skill in the art to combine the Lie and Dahl references used in generating bump map application as Dahl discloses the detail elements common to a computer system for implementing a computer system and product performing a process of extracting bump (pad, pinout or ball) in to the data structure for a routing application, that benefit of reducing the change of human error by using automate reformatted information for different purposes (Lie, col. 11, ll. 34-42)

and handling such of custom layout or exceptions in the patterns by using editor and graphical user interface (GUI) (Dahl, col. 2, ll. 40-52).

23.   **With respect to claims 2-5**, Lie and Dahl disclose the computer product, which is including the computer system in the claim 1 as rejection 35 USC 103(a) above, further comprising:

(claim 4-5) the pinout map table (bump map application) displays plurality cells (Lie, figures 3-4 and the descriptions); (claim 5) each cell comprises information regarding a two-dimensional space (--table, which has columns and rows--) (Lie, figures 3-4 and the descriptions); and (claims 2-4) each cell is adapted to contain a textual character group (Lie, figures 3-4 and the descriptions);

(claims 2-3) Lie also discloses computer product for generating and editing the information such the textual character groups by using the programming script such as perl (Lie, col. 34-46).

24.   **With respect to claim 6**, Lie and Dahl discloses the computer product in the set of forth claims of generating the pinout map table, which contain plurality cells, wherein each cell is shaded in one of a plurality of colors, wherein each color signifies information to a user (Lie, col. 4, ll. 12-18).

25.   **With respective to claims 7-12**, Lie and Dahl disclose all the limitations of the set for the claims, further comprising:

(claim 7) Lie discloses a track definition application executed by the CPU (Lie, col. 3, ll. 58-67 and col. 4, ll. 1-47), wherein the track definition application display on graphical user interface on or more set of intersecting columns and rows containing

editable information that describes track of an integrated circuit (Lie, figures 3-4; and

col. 4, ll. 47-67).

(claim 8) Lie discloses the bump map application (Lie, figures 9 and 20, col. 7, ll.

8-23 and col. 10, ll. 10-20 – mapping information for display bump/pinout location) and

track definition application (Lie, figures 3-4, col. 4) are a single application that uses a

single source file

(claim 9) Lie discloses the data extraction application extracts track-related data

from the track definition application and organizes the track-related data for use by a

router application (Lie, col. 3, ll. 29-51; ll. 58-67; col. 4, ll. 47-65 and col. 10, ll. 10-39).

(claim 10) wherein at least one of the sets of intersecting columns and rows

display information consisting of: a name associated with a set of intersecting columns

and rows (Lie, figure 3, col. 4, ll. 47-65).

(claim 11) wherein at least one of the sets of intersecting columns and rows

comprises a macro definition, wherein at least some track parameters contained in the

macro definition are automatically entered when one or more predetermined labels

associated with tracks are entered (Lie, figures 6-7; and col. 5, ll. 60-67 and col. 6 ll. 1-

51) .

(claim 12) wherein at least one of the sets of intersecting columns and rows

contains a name associated with the macro definition and coordinates defining a two-

dimensional region, wherein track parameters associated with the macro are used by a

router application to layout tracks in the two-dimensional region (Lie, figures 21-22; and

col.10, ll. 20-67).

26.   **With respective to claim 13**, Lie and Dahl disclose all the limitations of the claim

1, wherein the origin (-- the coordinate could have the origin --) is associated with an

integrated circuit region (Lie, col. 3, ll. 58-64, col. 4, ll. 32-35 and col. 9, ll. 34-49).

27.   **With respect to claims 27-28**, Lie and Dahl disclose all the limitations of claim

26, further comprising:

(claims 27) Lie does disclose the system wherein the computer readable

instructions when executed by the CPU further provide means for condensing (--table--)

editable metal layer information viewable to a use (Lie, figures 3-4).

(claims 28) Lie does disclose the system wherein the computer readable

instructions when executed by the CPU further provide means for extracting (--reading -

-) the condensed editable metal layer information for use by a router application (Lie,

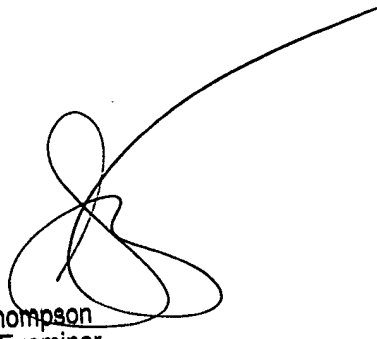col. 4, ll. 1-36).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nghia M. Doan whose telephone number is 571-272-

5973. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Nghia M. Doan
Patent Examiner
AU 2825
NMD

A. M. Thompson
Primary Examiner
Technology Center 2800